

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P559628

Luminaire Tested: FSR-12-2-LD4-1HI-35-UNV-81-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559628  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-12-2-LD4-1HI-35-UNV-81-96-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

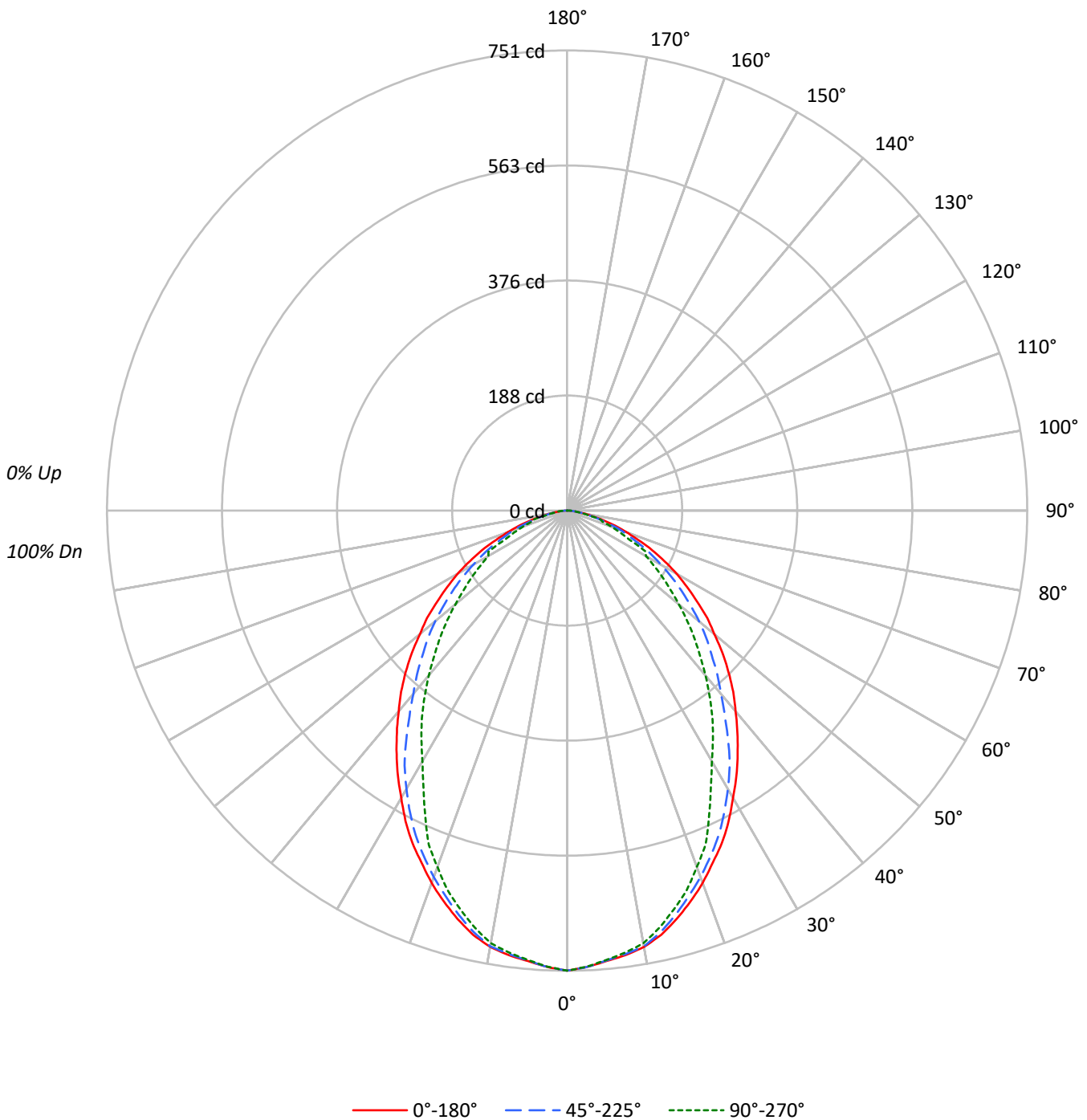
Lumens per Lamp: N/A  
Luminaire Lumens: 1474.0 lumens  
Efficiency: N/A  
Efficacy: 68.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



TEST NUMBER: P559628

CATALOG NUMBER: FSR-12-2-LD4-1HI-35-UNV-81-96-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P559628

CATALOG NUMBER: FSR-12-2-LD4-1HI-35-UNV-81-96-EDD-90

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									20									
RC	80									70									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4041	4041	4041
5°	3986	3981	3977
10°	3952	3947	3918
15°	3845	3806	3753
20°	3704	3644	3545
25°	3552	3474	3258
30°	3366	3258	2935
35°	3188	3011	2715
40°	3006	2744	2470
45°	2834	2537	2233
50°	2624	2354	1991
55°	2427	2134	1784
60°	2224	1906	1597
65°	1956	1670	1415
70°	1611	1462	1202
75°	1281	1119	1173
80°	862	806	753
85°	537	642	753

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2834 cd/sqm



TEST NUMBER: P559628

CATALOG NUMBER: FSR-12-2-LD4-1HI-35-UNV-81-96-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.9	4.7
10°-20°	191.8	13.0
20°-30°	265.6	18.0
30°-40°	283.2	19.2
40°-50°	258.3	17.5
50°-60°	202.4	13.7
60°-70°	131.9	8.9
70°-80°	58.4	4.0
80°-90°	12.5	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	527.3	35.8
0°-40°	810.4	55.0
0°-60°	1271.1	86.2
0°-90°	1474.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1474.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	751	751	751	751	751	
5°	738	737	737	736	736	70
15°	690	690	683	676	674	194
25°	598	595	585	564	549	275
35°	485	482	458	424	413	303
45°	372	365	333	306	293	287
55°	259	251	227	200	190	232
65°	154	145	131	134	111	151
75°	62	57	54	51	56	66
85°	9	10	10	11	12	12
90°	0	0	0	0	0	



TEST NUMBER: P559628

CATALOG NUMBER: FSR-12-2-LD4-1HI-35-UNV-81-96-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	750.8	750.8	750.8	750.8	750.8
2.5°	745.6	745.6	745.6	744.8	744.8
5°	737.8	736.9	736.9	736.1	736.1
7.5°	731.7	730.9	730.0	729.1	727.4
10°	723.1	723.1	722.2	717.9	717.0
12.5°	709.2	708.3	704.8	698.8	697.0
15°	690.1	690.1	683.1	676.2	673.6
17.5°	669.2	668.4	659.7	652.7	649.3
20°	646.7	644.9	636.3	625.0	618.9
22.5°	621.5	621.5	611.1	596.3	590.3
25°	598.1	594.6	585.0	564.2	548.6
27.5°	571.2	565.9	555.5	526.0	507.8
30°	541.6	539.0	524.3	486.1	472.2
32.5°	513.9	509.5	493.9	454.0	442.7
35°	485.2	481.8	458.3	423.6	413.2
37.5°	456.6	452.2	422.7	394.9	381.9
40°	427.9	422.7	390.6	365.4	351.5
42.5°	401.0	394.1	362.8	335.9	320.3
45°	372.4	364.6	333.3	305.5	293.4
47.5°	343.7	336.8	308.1	279.5	265.6
50°	313.4	307.3	281.2	252.6	237.8
52.5°	288.2	278.6	253.5	224.8	212.7
55°	258.7	250.9	227.4	200.5	190.1
57.5°	231.8	223.9	202.2	177.1	168.4
60°	206.6	195.3	177.1	155.4	148.4
62.5°	178.8	170.1	154.5	136.3	145.0
65°	153.6	145.0	131.1	133.7	111.1
67.5°	125.9	121.5	109.4	97.2	93.7
70°	102.4	97.2	92.9	79.9	76.4
72.5°	81.6	76.4	70.3	63.4	60.8
75°	61.6	57.3	53.8	51.2	56.4
77.5°	42.5	40.8	38.2	35.6	34.7
80°	27.8	26.9	26.0	25.2	24.3
82.5°	16.5	16.5	16.5	16.5	16.5
85°	8.7	9.5	10.4	11.3	12.2
87.5°	5.2	5.2	6.1	6.9	7.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)